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(71) Applicant (for all designated States except US): **BOREALIS TECHNICAL LIMITED [US/US];** 23545 NW Skyline Blvd, North Plains, OR 97133-9205 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TAVKHELIDZE, Avto [GE/GE];** Suite 3G, Eurolife Building, 1 Corral Road, Gibraltar (GI). **TALIASHVILI, Zaza [GE/GE];** Suite 3G, Eurolife Building, 1 Corral Road, Gibraltar (GI).

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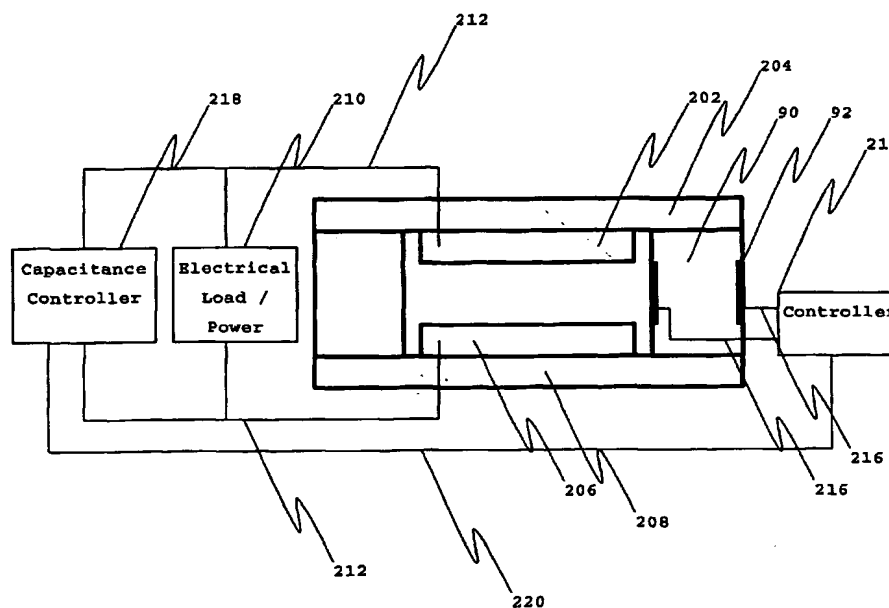
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(54) Title: **THERMIONIC VACUUM DIODE DEVICE WITH ADJUSTABLE ELECTRODES**



(57) Abstract: In accordance with one embodiment of the present invention, a Gap Diode is disclosed in which a tubular actuating element serves as both a housing for a pair of electrodes (92) and as a means for controlling the separation between the electrode pair. In a preferred embodiment, the tubular actuating element (90) is a quartz piezo-electric tube. In accordance with another embodiment of the present invention, a Gap Diode is disclosed which is fabricated by micromachining techniques in which the separation of the electrodes (202, 206) is controlled by piezo-electric, electrostrictive or magnetostrictive actuators. Preferred embodiments of Gap Diodes include Cool Chips, Power Chips, and photoelectric converters.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/07015

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H01J 17/30

US CL : 313/602, 603; 362/632

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 313/601, 602, 603

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO APS EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/0046749 A1 (TAVKHELIDZE et al) 29 November 2001 (29.11.2001), see entire document.	1-26



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Authorized officer

GLENN ZIMMERMAN
Telephone No. (703) 308-8991

Benjamin P. ...